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## ABSTRACT

The present invention relates to compositions and methods for promoting tissue regeneration, preferably neural tissue regeneration. Compositions of the invention include (i) certain diphenyl sulfides, diphenyl sulfoxides, diphenyl sulfones, and sulfide, sulfoxide and sulfones of dibenzothiophene and thioxanthene, as well as various analogues and derivatives of these compounds; (ii) one or more cells harvested from an animal or organism subsequent to the administration of a composition comprising a compound of (i); or (iii) any combination of (i) and (ii). The invention can be useful in treating decreases in neuronal function, for example from injury or disease.